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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2019 United States Special Operations Command	<b>Date:</b> February 2018
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<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	<b>R-1 Program Element (Number/Name)</b> PE 1160483BB / <i>Maritime Systems</i>											
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	350.185	52.199	42.315	42.471	-	42.471	31.865	29.982	21.197	46.307	Continuing	Continuing
S0417: <i>Underwater Systems</i>	321.000	48.317	35.114	26.897	-	26.897	22.693	21.595	17.572	42.610	Continuing	Continuing
S1684: <i>Surface Craft</i>	29.185	3.882	7.201	15.574	-	15.574	9.172	8.387	3.625	3.697	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

This program element provides for engineering and manufacturing development (EMD) of Special Operations Forces (SOF) Surface and Undersea Mobility platforms. This program element also provides for pre-acquisition activities to quickly respond to new requirements for SOF surface and undersea mobility, looking at multiple alternatives to include cross-platform technical solutions, service-common solutions, Commercial-Off-The-Shelf technologies, and new development efforts.

The Underwater Systems project provides for EMD of combat submersibles, SOF operator diving systems, underwater support systems, and underwater equipment. This project also provides for pre-acquisition activities (materiel solutions analysis, advanced component and prototype development) to respond to emergent requirements. These submersibles, equipment, and diving systems are used by SOF in the conduct of infiltration/extraction, personnel/material recovery, hydrographic/inland reconnaissance, beach obstacle clearance, underwater ship attack, and other missions. The capabilities of the submersible systems, diving systems, and unique equipment provide small, highly trained forces the ability to successfully engage the enemy and conduct clandestine operations associated with SOF maritime missions.

The Surface Craft project provides for EMD of medium and heavy surface combatant craft, combatant craft mission equipment, and pre-planned product improvement and technology insertion engineering changes to meet the unique requirements of SOF. This project element also provides for pre-acquisition activities (materiel solutions analysis, advanced component development and prototypes) to quickly respond to new requirements for maritime craft and subsystems. The craft capabilities and unique equipment provide small, highly trained forces the ability to successfully engage the enemy and conduct operations associated with SOF maritime missions.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>
Previous President's Budget	54.577	42.315	20.457	-	20.457
Current President's Budget	52.199	42.315	42.471	-	42.471
Total Adjustments	-2.378	0.000	22.014	-	22.014
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.389	-			
• SBIR/STTR Transfer	-1.989	-			
• Other	-	-	22.014	-	22.014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400: Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development	R-1 Program Element (Number/Name) PE 1160483BB / Maritime Systems	
<p><b><u>Change Summary Explanation</u></b></p> <p>Funding:</p> <p>FY 2017: Decrease of \$2.378 million is due to the transfer of funds (-\$1.989 million) to Small Business Innovative Research/Small Business Technology Transfer programs and a reprogramming of -\$0.389 million from Surface Craft for higher Command priorities.</p> <p>FY 2018: None.</p> <p>FY 2019: Net increase of \$22.014 million is due to FY 2019 funding request reduction of -\$8.733 million to account for the availability of prior year execution balances, a -\$0.321 million decrease to reflect Departmental economic adjustments, an increase of \$5.810 million to conduct Developmental Testing (DT) and Initial Operational Test and Evaluation (OT&amp;E) for Threat Awareness System, an increase of \$15.258 million to develop and integrate a Mid-Water Column lock-in/lock-out, decompression pump, signature management capabilities on Dry Combat Submersible (DCS) vessels, and conduct DT and OT&amp;E on DCS 1 and an increase of \$10 million for Maritime Precision Engagement Production Representative Article.</p> <p>Schedule: None.</p> <p>Technical: None.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command										Date: February 2018		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160483BB / Maritime Systems				Project (Number/Name) S0417 / Underwater Systems			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S0417: Underwater Systems	321.000	48.317	35.114	26.897	-	26.897	22.693	21.595	17.572	42.610	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

## A. Mission Description and Budget Item Justification

This project provides for engineering and manufacturing development of combat underwater submersibles, Special Operations Forces (SOF) operator diving systems, underwater support systems, and underwater equipment. This project also provides for pre-acquisition activities (materiel solutions analysis, advanced component development and prototypes) to respond to emergent requirements. These submersibles, equipment, and diving systems are used by SOF in the conduct of infiltration/extraction, personnel/material recovery, hydrographic/inland reconnaissance, beach obstacle clearance, underwater ship attack, and other missions. The capabilities of the submersible systems, diving systems, and unique equipment provides small, highly trained forces the ability to successfully engage the enemy and conduct clandestine operations associated with SOF maritime missions.

## B. Accomplishments/Planned Programs (\$ in Millions)

	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
<b>Title:</b> Shallow Water Combat Submersible (SWCS)	0.950	1.378	1.247
<b>Description:</b> This sub-project provides for the design, development, test, manufacturing and sustainment of one Engineering Development Model (EDM) and ten production units to replace the legacy MK 8 MOD 1 Seal Delivery Vehicle (SDV) system. SWCS is a free-flooding combat submersible mobility platform suitable for transporting and deploying SOF and their payloads for a variety of SOF missions. SWCS will be deployable from a Dry Deck Shelter (DDS), surface ships, and land. The SWCS system includes the SWCS vehicle and SWCS support Equipment, comprised of Mission Support Equipment (MSE), Pack-Up Kit (PUK), and Transportation and Handling (T&H). It also includes integration efforts with the current Dry Deck Shelter (DDS) and development of product improvements accomplished throughout the lifecycle of the system.			
<b>FY 2018 Plans:</b> Continue Initial Operational Test and Evaluation (IOT&E).			
<b>FY 2019 Plans:</b> Continues pre-planned product improvements and complete IOT&E.			
<b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Decrease of \$0.131 million is due to minor adjustments.			
<b>Title:</b> Dry Combat Submersible (DCS)	39.139	21.497	15.024
<b>Description:</b> This sub-project provides for the advanced development, engineering, manufacturing, and testing efforts for a surface-launched, dry, diver lock-in/lock-out vessel capable of inserting and extracting SOF and/or payloads into denied areas. USSOCOM awarded an Engineering and Manufacturing Development (EMD) contract in FY 2016 to produce one production representative vessel, with options to produce two additional vessels. USSOCOM is testing one submersible prototype to validate			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2019 United States Special Operations Command			<b>Date:</b> February 2018		
<b>Appropriation/Budget Activity</b> 0400 / 7		<b>R-1 Program Element (Number/Name)</b> PE 1160483BB / <i>Maritime Systems</i>		<b>Project (Number/Name)</b> S0417 / <i>Underwater Systems</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>			<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
test methodologies, commercial classification, and SOCOM safety certification processes and will continue to use the prototype to evaluate capability enhancing technologies and reduce risk in the DCS program. This project includes funding for enhanced warfighter capabilities such as Mid-Water Column Lock-In/Lock-Out, depressurization pump, and submarine interoperability.					
<b>FY 2018 Plans:</b> Continue to evaluate capability enhancing technologies and reduce risk in the DCS program. Continue manufacturing of DCS production representative EMD Vessel. Achieve Milestone C.					
<b>FY 2019 Plans:</b> Continues to evaluate capability enhancing technologies and reduce risk in the DCS program. Conduct Government Acceptance Testing and initiate developmental testing and operational testing.					
<b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> The FY 2019 funding request was reduced by \$6.473 million to account for the availability of prior year execution balances and due to completion of Production Representative Article.					
<b>Title:</b> Dry Deck Shelter (DDS) Modernization			6.228	10.200	8.564
<b>Description:</b> This sub-project provides for the pre-planned product improvements, testing, and integration of specialized underwater systems to meet the unique requirements of SOF, and compatibility with the submarine fleet. The current DDS is a certified diving system which attaches to modified host submarines that provides for insertion of SOF forces and platforms. Funding supports product improvements to the current DDS, as well as associated diver equipment for in-service submarine support systems, unmanned underwater vehicles, and follow on development efforts for future SOF payloads.					
<b>FY 2018 Plans:</b> Continue development of the modernization necessary to extend useful life of the DDS, transition from SSGN to Virginia Class host platform, and increase capacity to carry larger payloads.					
<b>FY 2019 Plans:</b> Continues development of the modernization necessary to extend useful life of the DDS, transitions from SSGN to Virginia Class host platform, and increases capacity to carry larger payloads.					
<b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> The FY 2019 funding request was reduced by \$1.636 million to account for the availability of prior year execution balances.					
<b>Title:</b> SOF Combat Diving			2.000	2.039	2.062
<b>Description:</b> This sub-project provides for the development, testing, and fielding of SOF peculiar diving equipment providing the SOF combat diver the ability to engage the enemy and conduct operations. SOF Combat Diving will support the SDV, SWCS, and DCS with the conduct of infiltration/extraction, material recovery, underwater ship attack, beach clearance, and					

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<b>Appropriation/Budget Activity</b> 0400 / 7				<b>R-1 Program Element (Number/Name)</b> PE 1160483BB / <i>Maritime Systems</i>				<b>Project (Number/Name)</b> S0417 / <i>Underwater Systems</i>				
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>										<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
<p>other missions. Technologies include, but are not limited to, commercial and developmental life support, maneuverability, diver navigational accuracy and situational awareness, thermal protection, and underwater communications.</p> <p><b><i>FY 2018 Plans:</i></b> Continue development for environmental protection, navigation, communication, and propulsion.</p> <p><b><i>FY 2019 Plans:</i></b> Continues development, to include test and evaluation for environmental protection, navigation, communication, and propulsion.</p> <p><b><i>FY 2018 to FY 2019 Increase/Decrease Statement:</i></b> Increase of \$0.023 million due to minor adjustments.</p>												
<b>Accomplishments/Planned Programs Subtotals</b>										48.317	35.114	26.897
<b>C. Other Program Funding Summary (\$ in Millions)</b>												
<b>Line Item</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	
• PROC/0210US: <i>Underwater Systems</i>	42.840	92.606	136.723	-	136.723	75.126	40.817	24.017	22.609	Continuing	Continuing	
<b>Remarks</b>												
<b>D. Acquisition Strategy</b>												
<ul style="list-style-type: none"> <li>• SWCS used full and open competition with a down select to a single contractor. The full spectrum of contracting activities are being utilized for any integration and subsystem requirements, using existing contracts where appropriate, government agencies, and new contracts as necessary.</li> <li>• DCS used full and open competition, resulting in the selection of a single prime contractor. A Fixed Price Incentive Firm Target contract for a production representative system was awarded in FY 2016 with options to procure one vessel in FY 2018 and one in FY 2019.</li> <li>• The DDS is currently in sustainment through a series of maintenance and service contracts which were competitively sourced, and awarded for a 5-year period. The modernization and engineering/change efforts for the six DDS in inventory are executed utilizing existing services contracts.</li> <li>• SOF Combat Diving efforts are executed using existing contracts, government agencies, and new contracts competitively selected as appropriate.</li> </ul>												
<b>E. Performance Metrics</b>												
N/A												

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**Exhibit R-3, RDT&E Project Cost Analysis:** PB 2019 United States Special Operations Command **Date:** February 2018

<b>Appropriation/Budget Activity</b> 0400 / 7	<b>R-1 Program Element (Number/Name)</b> PE 1160483BB / <i>Maritime Systems</i>	<b>Project (Number/Name)</b> S0417 / <i>Underwater Systems</i>
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Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
DCS Technologies Government Furnished Equipment	C/Various	Various : Various	30.292	7.461	Mar 2017	3.000	Mar 2018	3.118	Mar 2019	-		3.118	Continuing	Continuing	-
DCS Engineering & Manufacturing Development	C/FPIF	Lockheed Martin : Riviera Beach, FL	26.846	26.015	Mar 2017	12.997	Mar 2018	-		-		-	0.000	65.858	-
DCS Engineering Changes	C/Various	Various : Various	0.000	3.135	Mar 2017	1.571	Mar 2018	2.087	Mar 2019	-		2.087	Continuing	Continuing	-
Dry Deck Shelter (DDS) Modernization	SS/CPFF	Oceaneering International Inc. Marine Services Division : Chesapeake, VA	8.543	6.006	Jan 2017	9.850	Jan 2018	8.242	Jan 2019	-		8.242	Continuing	Continuing	-
SOF-Unique Diving Technologies	Various	Various : Various	0.370	1.500	Nov 2016	1.369	Nov 2017	1.379	Nov 2018	-		1.379	Continuing	Continuing	-
SWCS Engineering Changes	C/Various	Various : Various	-	-		-		1.047	Feb 2019	-		1.047	Continuing	Continuing	-
Prior Year Funding	Various	Various : Various	202.681	-		-		-		-		-	0.000	202.681	-
<b>Subtotal</b>			268.732	44.117		28.787		15.873		-		15.873	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Year Funding	Various	Various : Various	9.094	-		-		-		-		-	0.000	9.094	-
<b>Subtotal</b>			9.094	-		-		-		-		-	0.000	9.094	N/A

Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SWCS	Various	Puget Sound Naval Shipyard : Seattle, Washington	1.214	0.600	Nov 2016	1.378	Nov 2017	0.200	Nov 2018	-		0.200	0.000	3.392	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command												Date: February 2018			
Appropriation/Budget Activity 0400 / 7						R-1 Program Element (Number/Name) PE 1160483BB / <i>Maritime Systems</i>				Project (Number/Name) S0417 / <i>Underwater Systems</i>					
Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
DCS	C/Various	NAVSEA / CRANE : Crane, IN	10.306	-		1.525	Jun 2018	7.448	Mar 2019	-		7.448	0.000	19.279	-
SOF Combat Diving	Various	Various : Various	0.130	0.500	Jun 2017	0.500	Jun 2018	0.510	Mar 2019	-		0.510	Continuing	Continuing	-
Prior Year Funding	Various	Various : Various	9.320	-		-		-		-		-	0.000	9.320	-
Subtotal			20.970	1.100		3.403		8.158		-		8.158	Continuing	Continuing	N/A
Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SWCS	Various	Penn State University : University Park, PA	2.781	0.350	Jun 2017	-		-		-		-	0.000	3.131	-
DCS	Various	Booz Allen Hamilton : Tampa, FL	12.116	2.528	Jun 2017	2.404	Jun 2018	2.371	Mar 2019	-		2.371	Continuing	Continuing	-
DDS	MIPR	NAVSEA : Washington, DC	1.107	0.222	Jan 2017	0.350	Jan 2018	0.322	Jan 2019	-		0.322	Continuing	Continuing	-
SOF Combat Diving	C/Various	Booz Allen Hamilton : Tampa, FL	-	-		0.170	Dec 2017	0.173	Dec 2018	-		0.173	Continuing	Continuing	-
Prior Year Funding	Various	Various : Various	6.200	-		-		-		-		-	0.000	6.200	-
Subtotal			22.204	3.100		2.924		2.866		-		2.866	Continuing	Continuing	N/A
			Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			321.000	48.317		35.114		26.897		-		26.897	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command

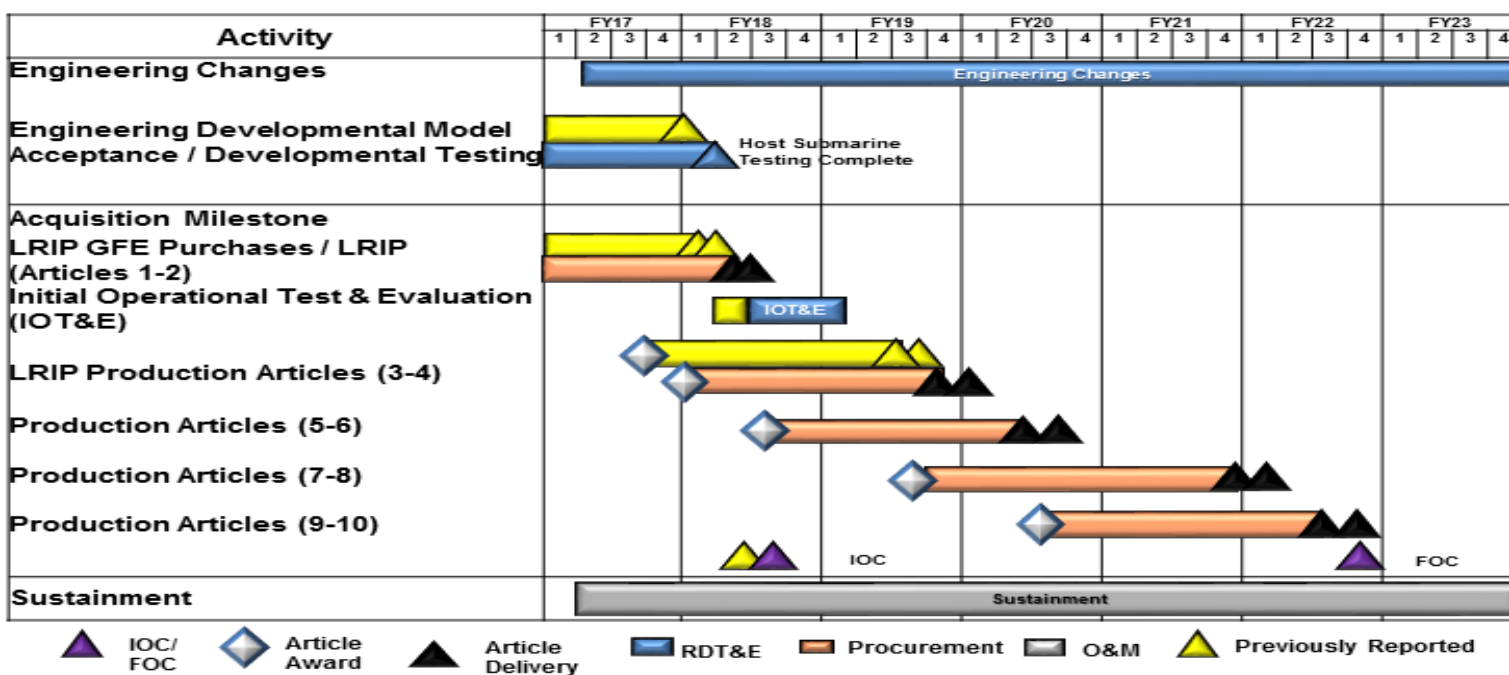
Date: February 2018

Appropriation/Budget Activity  
0400 / 7

R-1 Program Element (Number/Name)  
PE 1160483BB / Maritime Systems

Project (Number/Name)  
S0417 / Underwater Systems

## Shallow Water Combat Submersible Schedule





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Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command

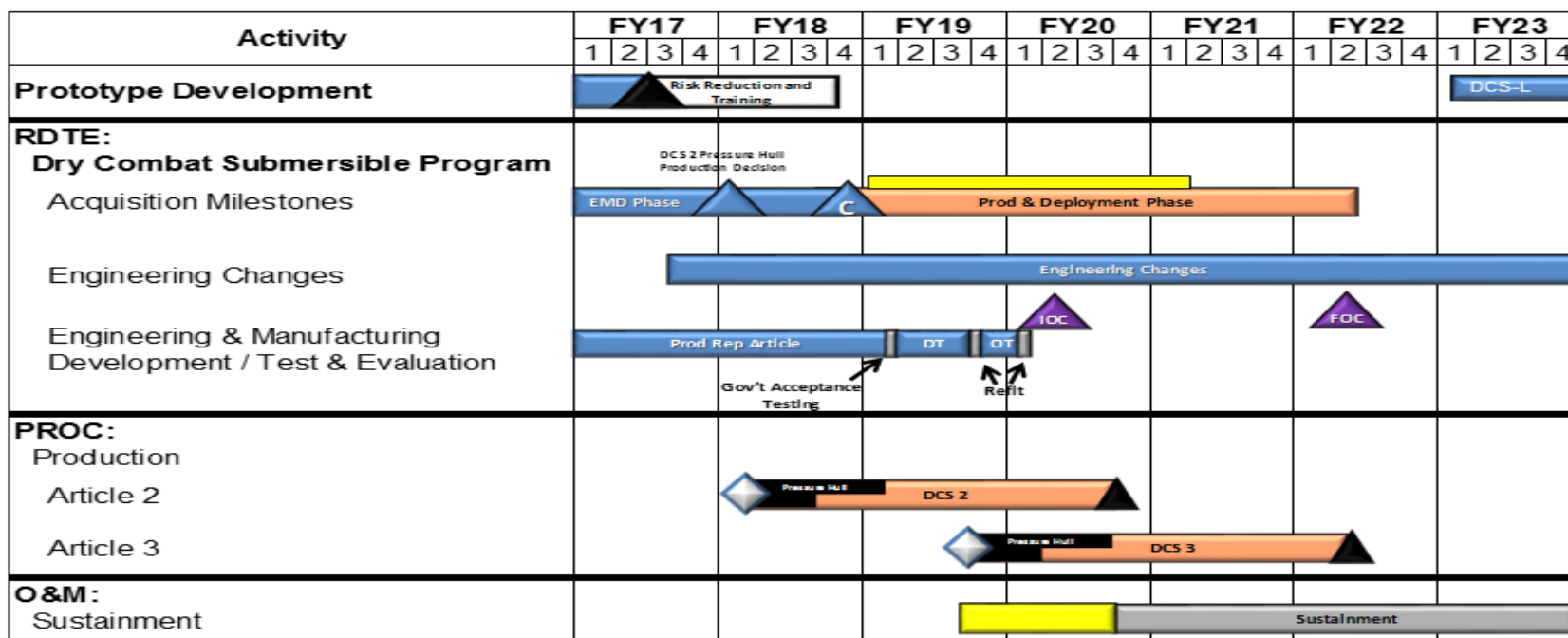
Date: February 2018








Appropriation/Budget Activity  
0400 / 7

R-1 Program Element (Number/Name)  
PE 1160483BB / Maritime Systems

Project (Number/Name)  
S0417 / Underwater Systems

# Dry Combat Submersible Schedule



 IOC/FOC  
  Article Award  
  Article Delivery  
  RDT&E  
  Procurement  
  O&M  
  Previously Reported

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command

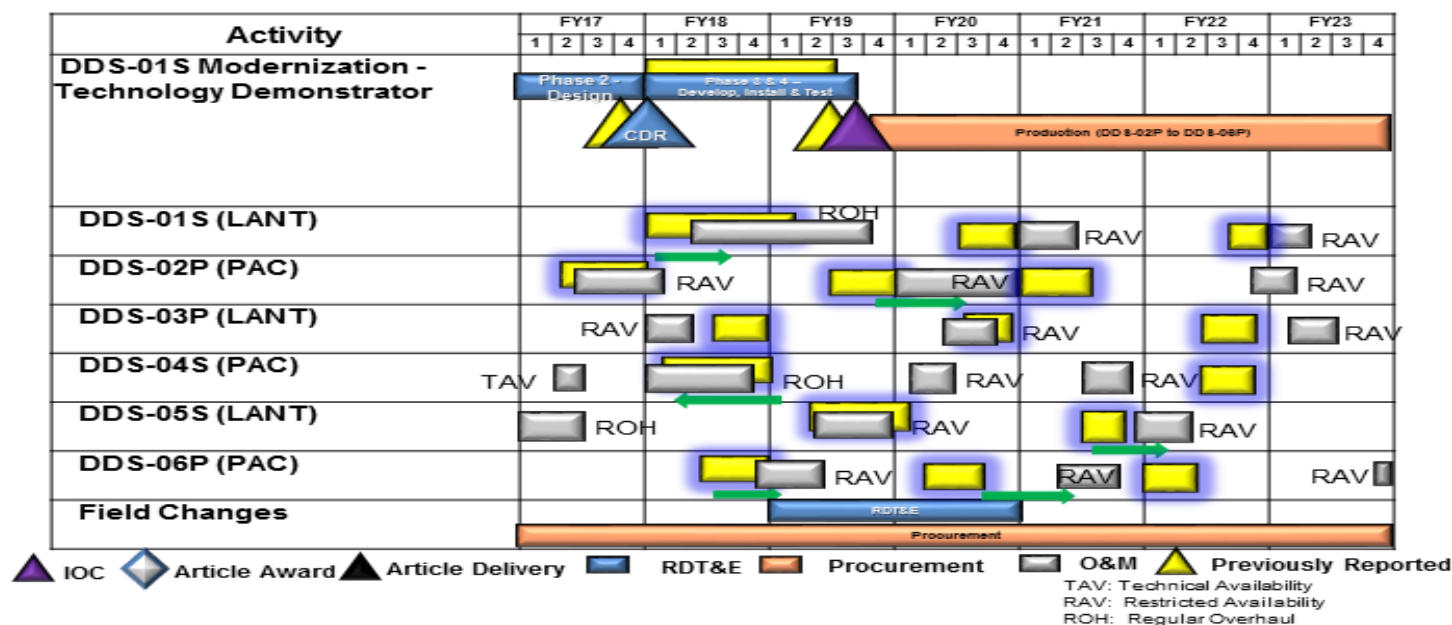
Date: February 2018

Appropriation/Budget Activity  
0400 / 7

R-1 Program Element (Number/Name)  
PE 1160483BB / Maritime Systems

Project (Number/Name)  
S0417 / Underwater Systems

# Dry Deck Shelter Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command

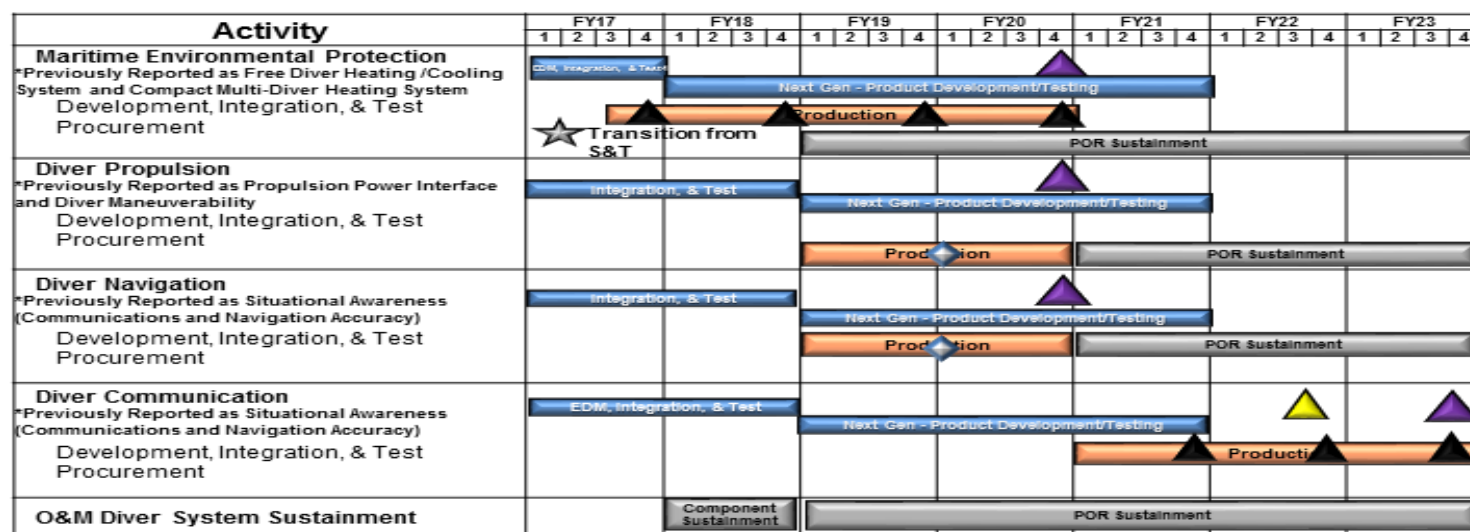
Date: February 2018

Appropriation/Budget Activity  
0400 / 7

R-1 Program Element (Number/Name)  
PE 1160483BB / Maritime Systems

Project (Number/Name)  
S0417 / Underwater Systems

## SOF Combat Diving Schedule



IOC 
 Article Award 
 Article Delivery 
 RDT&E 
 Procurement 
 O&M 
 Previously Reported

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2019 United States Special Operations Command			<b>Date:</b> February 2018
<b>Appropriation/Budget Activity</b> 0400 / 7	<b>R-1 Program Element (Number/Name)</b> PE 1160483BB / <i>Maritime Systems</i>	<b>Project (Number/Name)</b> S0417 / <i>Underwater Systems</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Shallow Water Combat Submersible</i></b>				
Engineering Changes	2	2017	4	2023
Engineering Development Model Acceptance	1	2017	2	2018
Developmental Test	1	2017	2	2018
IOT&E	2	2018	1	2019
<b><i>Dry Combat Submersibles</i></b>				
Prototype Development	1	2017	2	2017
DCS-L	1	2023	4	2023
Engineering and Manufacturing Development Phase	1	2017	4	2018
Engineering Changes	3	2017	4	2023
Milestone C	4	2018	4	2018
Production Representative Article	1	2017	2	2019
Developmental Test and Evaluation	2	2019	3	2019
Operational Test and Evaluation	4	2019	1	2020
<b><i>Dry Deck Shelter Modernization</i></b>				
Phase 2 Design	1	2017	4	2017
Phase 3 & 4 Development	1	2018	3	2019
Critical Design Review	1	2018	1	2018
Field Changes	1	2019	4	2020
<b><i>SOF Combat Diving</i></b>				
Maritime Environmental Protection Development, Integration, and Test	1	2017	4	2021
Propulsion Development / Manufacturing / Test / Integration	1	2017	4	2021
Navigation Development / Manufacturing / Test / Integration	1	2017	4	2021

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<b>Appropriation/Budget Activity</b> 0400 / 7	<b>R-1 Program Element (Number/Name)</b> PE 1160483BB / <i>Maritime Systems</i>	<b>Project (Number/Name)</b> S0417 / <i>Underwater Systems</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Communications Development / Manufacturing / Test / Integration	1	2017	4	2021

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Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command										Date: February 2018		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160483BB / <i>Maritime Systems</i>				Project (Number/Name) S1684 / <i>Surface Craft</i>			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S1684: <i>Surface Craft</i>	29.185	3.882	7.201	15.574	-	15.574	9.172	8.387	3.625	3.697	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

## A. Mission Description and Budget Item Justification

This project provides for engineering and manufacturing development of medium and heavy surface combatant craft, combatant craft mission equipment, and pre-planned product improvement (P3I) and technology insertion engineering changes to meet the unique requirements of Special Operations Forces (SOF). This project also provides for pre-acquisition activities (materiel solutions analysis, advanced component development and prototypes) to quickly respond to new requirements for maritime craft and subsystems. The craft capabilities and unique equipment provide small, highly trained forces the ability to successfully engage the enemy and conduct operations associated with SOF maritime missions.

## B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
<b>Title:</b> Combatant Craft Medium (CCM) Mk 1	1.202	1.662	0.788
<b>Description:</b> This sub-project is a semi-enclosed multi-mission combatant craft for platoon-size maritime mobility in maritime denied environments. It is multi-mission capable, including Maritime Interdiction, Insert / Extract, and Visit, Board, Search, and Seizure (VBSS) Operations. CCM is Naval Special Warfare's (NSW) craft-of-choice for long-range, high-payload SOF mobility operations in denied environments up to high threat. CCM has NSW's best Iron Triangle: 40 knot (kt) speed; 4 crew + 19 passengers (pax) / 10,000 pound (lb) payload; and 600 nautical miles (nm) range. CCM Mk 1 payload capacity enables inclusion of shock mitigating seats, which is critical for ride quality, operator tactical readiness, and operator health. At 60 feet long, CCM is C-17 / C5 transportable and can launch/recover by well deck or shore based trailer.			
<b>FY 2018 Plans:</b> Continue integration of CCFLIR2 and begins integration of Tactical Operations Center (TOCNET) Intercommunications System and Joint Threat Warning System (JTWS).			
<b>FY 2019 Plans:</b> Continues integration of CCFLIR2, TOCNET Intercommunications System and JTWS and begins integration of Threat Awareness System (TAS).			
<b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> The FY 2019 funding request was reduced by \$0.874 million to account for the availability of prior year execution balances.			
<b>Title:</b> Combatant Craft Heavy (CCH)	0.542	0.877	0.885
<b>Description:</b> This sub-project represents a family of solutions that provides platoon-size maritime surface mobility. The current CCH is the Sea, Air, Land Insertion, Observation, and Neutralization (SEALION) craft. SEALION is a fully-enclosed, climate-controlled, semi-submersible craft that operates in denied environments up to high-threat. SEALION is NSW's most versatile and			

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Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018		
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / Maritime Systems	Project (Number/Name) S1684 / Surface Craft		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2017	FY 2018	FY 2019
survivable combatant craft and the craft-of-choice for sensitive maritime intelligence, surveillance, and reconnaissance missions and those missions requiring a prolonged presence in denied environments. Its clandestine mobility capability is only exceeded by an undersea craft. Iron Triangle: 40 kt speed; 7 crew + 12 pax / 3,300 lb payload; and 400 nm range. SEALION payload capacity enables inclusion of shock mitigating seats, which is critical for ride quality, operator tactical readiness, and operator health. At 77+ feet long, SEALION is C-17/C-5 transportable and can launch/recover by well deck or shore based mobile travel lift or crane.  <b>FY 2018 Plans:</b> Continue CCFLIR2 integration and continue development and integration of upgraded Satellite Communications (SATCOM) antennas. Begin development of CCH Next.  <b>FY 2019 Plans:</b> Completes CCFLIR2 integration and continues development and integration of upgraded SATCOM antennas and development of CCH Next. Begins integration of TAS.  <b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Increase of \$0.008 million is due to minor adjustments.				
<b>Title:</b> Combatant Craft Mission Equipment (CCME)  <b>Description:</b> This sub-project provides a rapid response capability to support SOF combatant craft systems, subsystems, and their emerging requirements. CCME provides technology refresh efforts to correct system deficiencies, improve asset life, and enhance mission capability. Demonstrations and modifications may be made to support emerging capability enhancements such as, but not limited to, conformal antennas, identification friend-or-foe capabilities, enhanced communications, weapon integration, software refresh, and navigation subsystems in support of future missions. Solutions to these emerging requirements may be commercial-off-the-shelf leveraged from other Government agencies, or new solutions.  <b>FY 2018 Plans:</b> Evaluate candidate solutions for technology development to include, but not limited to, Maritime Precision Engagement, family of antennas testing, Airborne Mission Networking Marinization, and situational awareness.  <b>FY 2019 Plans:</b> Continues evaluation of candidate solutions for technology development to include, but not limited to, Maritime Precision Engagement, family of antennas testing, Airborne Mission Networking Marinization, and situational awareness.  <b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Increase of \$0.018 million is due to minor adjustments.		1.717	1.107	1.125
<b>Title:</b> Combatant Craft Assault (CCA)		0.421	0.510	0.515

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Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018		
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / Maritime Systems	Project (Number/Name) S1684 / Surface Craft		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2017	FY 2018	FY 2019
<p><b>Description:</b> This sub-project CCA is a combatant craft for squad-size maritime mobility operations in maritime denied environments. CCA is NSW's best craft for VBSS in maritime denied environments up to and including medium threat. It is the craft-of-choice for maritime interdiction and boarding operations because of the open deck space, maneuverability, and interoperability with an Afloat Forward Staging Base. Iron Triangle: 40 kt speed; 3 crew + 12 pax / 5,000 lb payload; and 300 nm range. At 41 feet long, CCA is air transportable by C-130 / C-17 / C-5 and can launch/recover by crane, davit, well deck, or shore based trailer.</p> <p><b>FY 2018 Plans:</b> Continue integration and testing of CCFLIR2 mast design and SSN-8 Tactical Computer System.</p> <p><b>FY 2019 Plans:</b> Continues integration and testing of CCFLIR2 mast design and SSN-8 Tactical Computer System. Begins integration of TAS.</p> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Increase of \$0.005 million is due to minor adjustments.</p>				
<p><b>Title:</b> Threat Awareness System (TAS)</p> <p><b>Articles:</b></p> <p><b>Description:</b> This sub-project provides SOF with an Electronic Intelligence capability for enhanced force protection of SOF in Maritime denied environments by allowing them to identify and avoid enemy detection capabilities. TAS will utilize technological advancements to gain significant improvements in capability such as miniaturization and marinization to enable seamless craft integration.</p> <p><b>FY 2018 Plans:</b> Begin development and testing of TAS.</p> <p><b>FY 2019 Plans:</b> Continues development and testing of TAS.</p> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> The FY 2019 funding request was reduced by \$0.784 million to account for the availability of prior year execution balances.</p>		- -	3.045 -	2.261 1
<p><b>Title:</b> Maritime Precision Engagement (MPE)</p> <p><b>Description:</b> This sub-project, Maritime Precision Engagement is a family of standoff, loitering, man-in-the-loop weapons systems deployed on combatant craft and capable of targeting individuals, groups, vehicles, high value targets, and small oceangoing craft with low collateral damage. The program consists of combatant craft alterations, launcher systems, and munitions.</p> <p><b>FY 2019 Plans:</b></p>		-	-	10.000



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Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command										Date: February 2018		
Appropriation/Budget Activity 0400 / 7				R-1 Program Element (Number/Name) PE 1160483BB / Maritime Systems				Project (Number/Name) S1684 / Surface Craft				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2017	FY 2018	FY 2019
Begin design and development of the production representative article.												
FY 2018 to FY 2019 Increase/Decrease Statement: Increase of \$10 million to initiate the design and development of the production representative article.												
Accomplishments/Planned Programs Subtotals										3.882	7.201	15.574
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost	
• PROC/0204SCCS: Combatant Craft Systems	46.548	23.272	7.313	-	7.313	38.433	31.372	37.854	66.617	Continuing	Continuing	
Remarks N/A												
D. Acquisition Strategy												
<p>• CCM was a two-phase source selection process. Phase I involved a Small Business Set-Aside competition for two vendors to design, build and deliver test articles. Phase II selected a single vendor to provide a fully integrated baseline craft system for test and evaluation with options for production, engineering support, and contractor logistic support.</p> <p>• CCH SEALION I &amp; II were transitioned from United States Navy advanced technology demonstrator craft to USSOCOM. Sustainment for SEALION I &amp; II is conducted via Special Operations Forces Support Activity. SEALION III is Sole Source to the OEM in order to take advantage of previous Government investments in manufacturing infrastructure for SEALION I &amp; II.</p> <p>• CCME emphasizes on spearheading Technology Readiness Level (TRL) 6 technology for successful transition into SOF Combatant Crafts. CCME accomplishes this by employing the full spectrum of contracting services, using existing contracts where appropriate, and leveraging from other Government agencies to include the Services and USSOCOM SOF AT&amp;L Science &amp; Technology Directorate. CCME focuses on developing the technology for maturity, marinization and compatibility, finally transitioning to the craft. The integration and procurement piece is managed by the individual Combatant Craft Program.</p> <p>• CCA utilizes various contracting and better buying power practices to develop, test, and integrate capability enhancements required to increase the craft's current performance envelope.</p> <p>• TAS PM JTWS will perform market research to determine feasibility and appropriateness of conducting a full and open competition. PM JTWS is planning a developmental effort in FY18/FY19 to mature existing technologies. PM-SS will retain funds to support integration across the family of Combatant Craft.</p>												

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Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / <i>Maritime Systems</i>	Project (Number/Name) S1684 / <i>Surface Craft</i>
<ul style="list-style-type: none"><li>• MPE will be a full and open competition of the launcher systems with follow-on government-led integration effort leveraging lessons learned from similar rapid integration efforts on other combat tested SOF platforms.</li></ul>		
<b>E. Performance Metrics</b> N/A		

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**Exhibit R-3, RDT&E Project Cost Analysis:** PB 2019 United States Special Operations Command **Date:** February 2018

<b>Appropriation/Budget Activity</b> 0400 / 7	<b>R-1 Program Element (Number/Name)</b> PE 1160483BB / <i>Maritime Systems</i>	<b>Project (Number/Name)</b> S1684 / <i>Surface Craft</i>
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Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Combat Craft Medium (CCM)	C/Various	Various : Various	11.089	1.202	Jun 2017	1.662	Nov 2017	0.788	Nov 2018	-		0.788	Continuing	Continuing	-
Combatant Craft Heavy (CCH)	C/Various	Various : Various	4.392	0.542	Apr 2017	0.877	Jan 2018	0.885	Jan 2019	-		0.885	Continuing	Continuing	-
Combatant Craft Assault	C/Various	Various : Various	0.000	0.421	Apr 2017	0.510	Nov 2017	0.515	Nov 2018	-		0.515	Continuing	Continuing	-
Combat Craft Mission Equipment (CCME)	C/Various	Various : Various	2.939	1.514	Mar 2017	0.878	Nov 2017	0.888	Nov 2018	-		0.888	Continuing	Continuing	-
Threat Awareness System (TAS)	C/Various	Various : Crane, IN	0.000	-		3.045	Mar 2018	1.661	Mar 2019	-		1.661	Continuing	Continuing	-
Prior Year Costs	C/Various	Various : Various	3.679	-		-		-		-		-	0.000	3.679	-
Maritime Precision Engagement (MPE)	C/Various	Various : Various	-	-		-		9.800	Dec 2018	-		9.800	Continuing	Continuing	-
<b>Subtotal</b>			22.099	3.679		6.972		14.537		-		14.537	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CCME	C/Various	Various : Various	1.155	0.203	Jun 2017	0.229	Nov 2017	0.237	Nov 2018	-		0.237	Continuing	Continuing	-
TAS	C/Various	Various : Various	-	-		-		0.239	Mar 2019	-		0.239	Continuing	Continuing	-
Prior Year Costs	C/Various	Various : Various	2.395	-		-		-		-		-	0.000	2.395	-
<b>Subtotal</b>			3.550	0.203		0.229		0.476		-		0.476	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
TAS	C/Various	Various : Various	-	-		-		0.361	Mar 2019	-		0.361	Continuing	Continuing	-
MPE	C/Various	Various : Various	-	-		-		0.200	Dec 2018	-		0.200	Continuing	Continuing	-
Prior Year Costs	C/Various	Various : Various	3.536	-		-		-		-		-	0.000	3.536	-
<b>Subtotal</b>			3.536	-		-		0.561		-		0.561	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command											Date: February 2018			
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160483BB / Maritime Systems					Project (Number/Name) S1684 / Surface Craft				
		Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		29.185	3.882		7.201		15.574		-		15.574	Continuing	Continuing	N/A

**Remarks**

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command

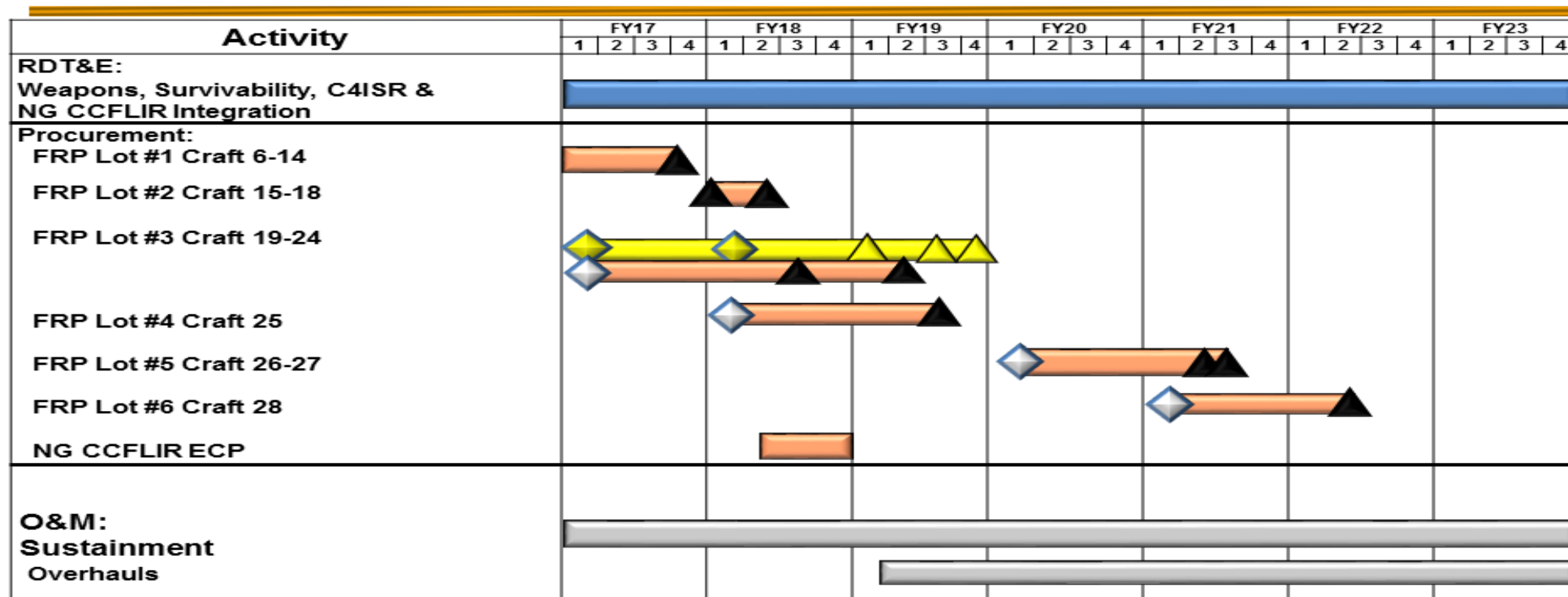
Date: February 2018

Appropriation/Budget Activity  
0400 / 7

R-1 Program Element (Number/Name)  
PE 1160483BB / Maritime Systems

Project (Number/Name)  
S1684 / Surface Craft

## Combatant Craft Medium Schedule



IOC
 Article Award
 Article Delivery
 RDT&E
 Procurement
 O&M
 Previously Reported

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command

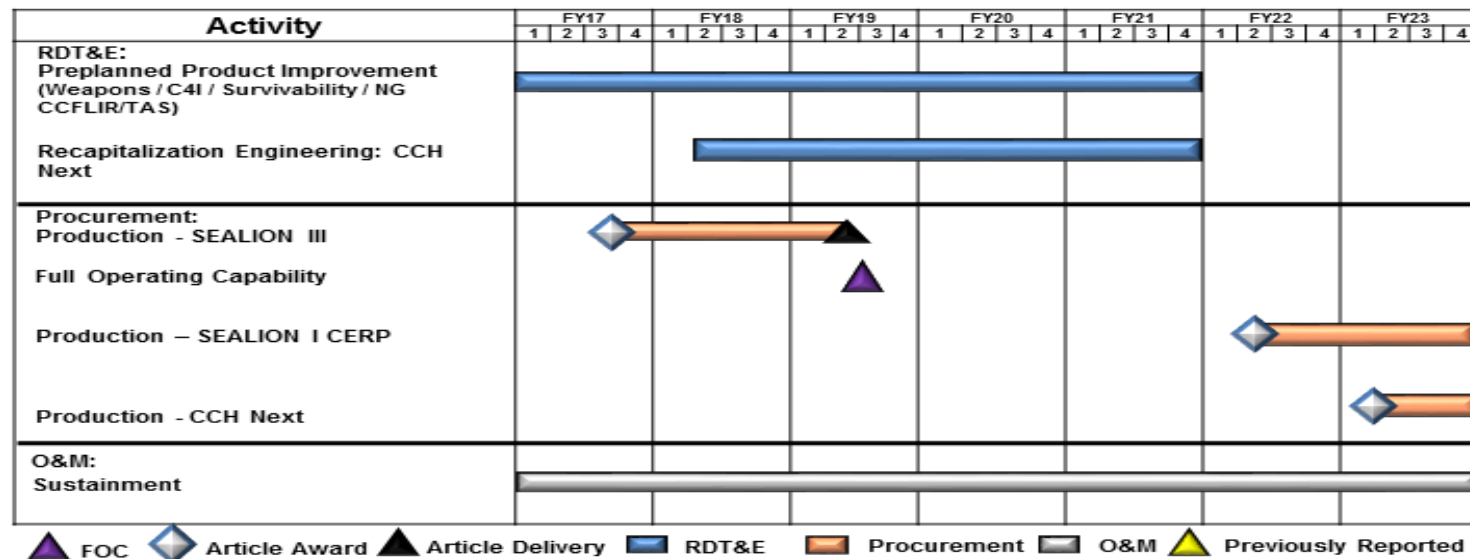
Date: February 2018

Appropriation/Budget Activity  
0400 / 7

R-1 Program Element (Number/Name)  
PE 1160483BB / Maritime Systems

Project (Number/Name)  
S1684 / Surface Craft

# Combatant Craft Heavy Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command

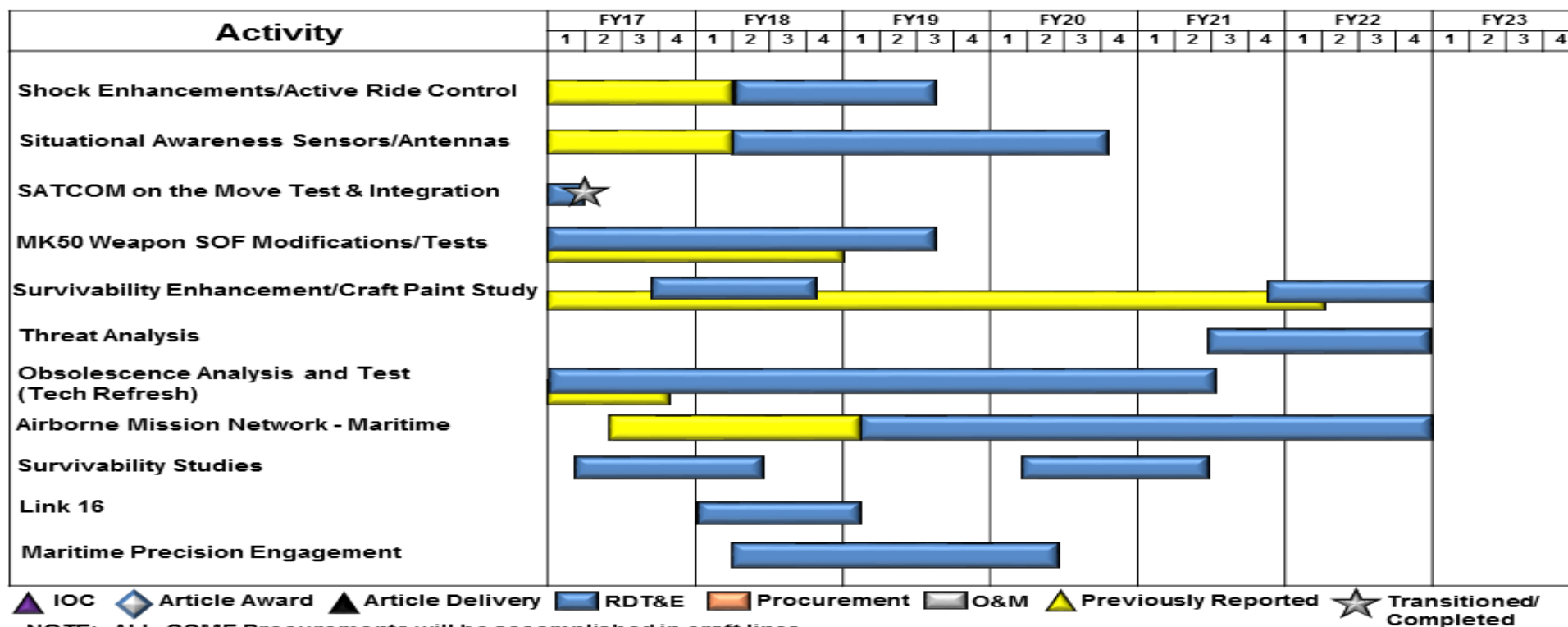
Date: February 2018

Appropriation/Budget Activity  
0400 / 7

R-1 Program Element (Number/Name)  
PE 1160483BB / Maritime Systems

Project (Number/Name)  
S1684 / Surface Craft

## CCME Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command

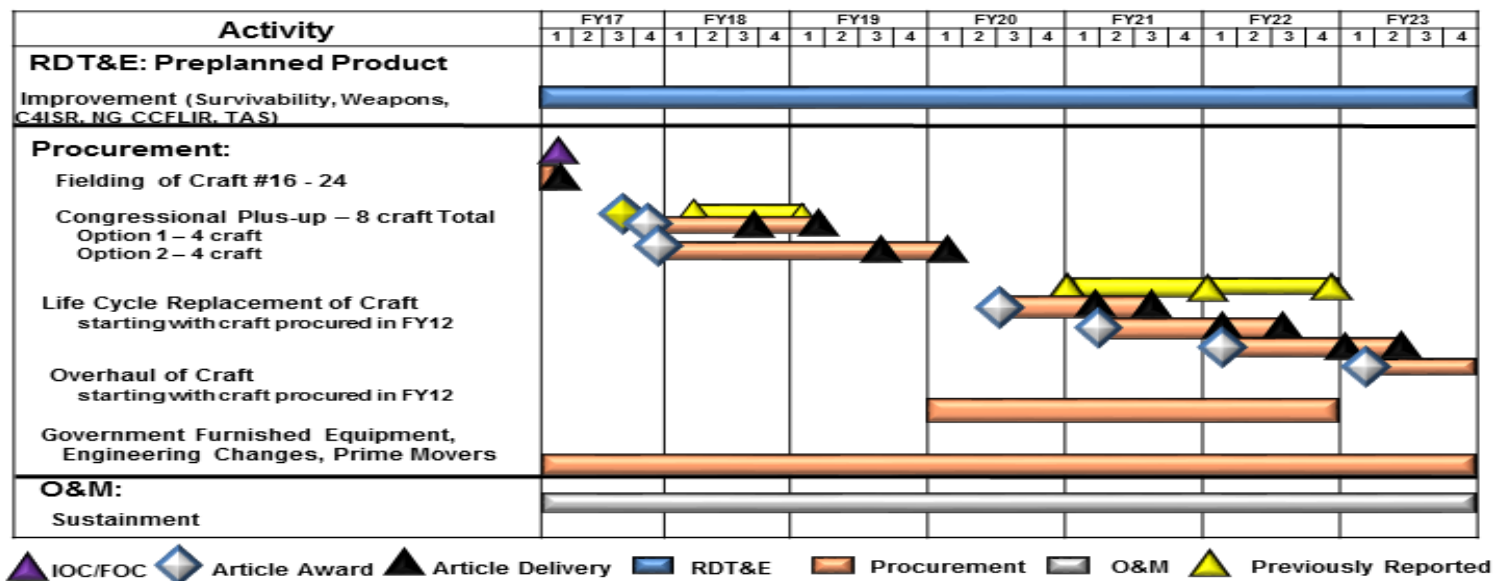
Date: February 2018

Appropriation/Budget Activity  
0400 / 7

R-1 Program Element (Number/Name)  
PE 1160483BB / Maritime Systems

Project (Number/Name)  
S1684 / Surface Craft

# Combatant Craft Assault Schedule





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Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command

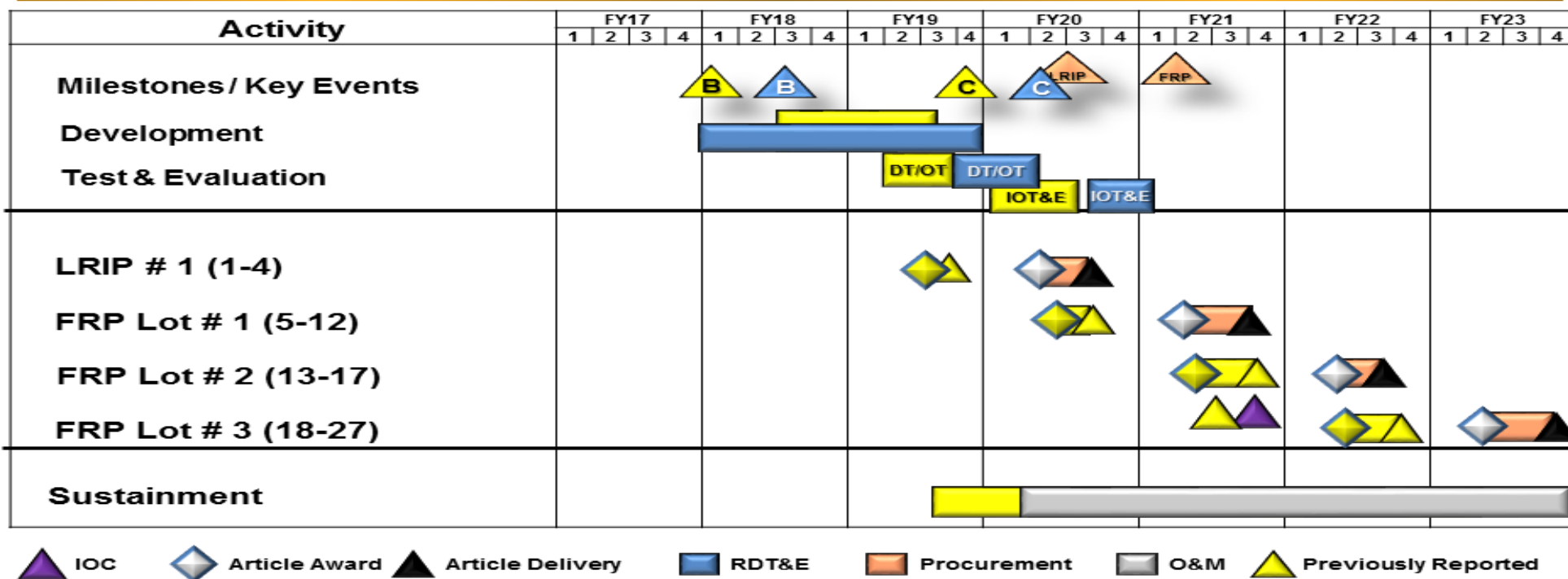
Date: February 2018

Appropriation/Budget Activity  
0400 / 7

R-1 Program Element (Number/Name)  
PE 1160483BB / Maritime Systems

Project (Number/Name)  
S1684 / Surface Craft

# Threat Awareness System Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command

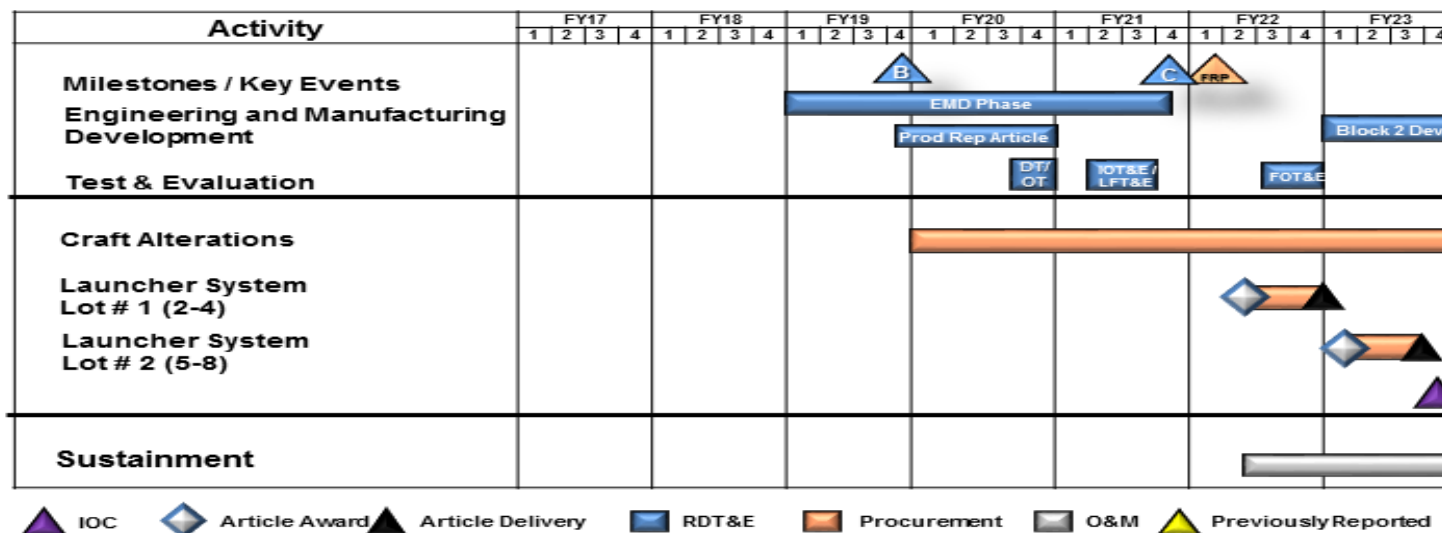
Date: February 2018

Appropriation/Budget Activity  
0400 / 7

R-1 Program Element (Number/Name)  
PE 1160483BB / Maritime Systems

Project (Number/Name)  
S1684 / Surface Craft

# Maritime Precision Engagement Schedule



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**Exhibit R-4A, RDT&E Schedule Details:** PB 2019 United States Special Operations Command **Date:** February 2018

<b>Appropriation/Budget Activity</b> 0400 / 7	<b>R-1 Program Element (Number/Name)</b> PE 1160483BB / <i>Maritime Systems</i>	<b>Project (Number/Name)</b> S1684 / <i>Surface Craft</i>
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**Schedule Details**

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Combatant Craft Medium</b>				
Weapons, Survivability, C4ISR and NG CCFLIR Integration	1	2017	4	2023
<b>Combatant Craft Heavy</b>				
Preplanned Product Improvement (Weapons / C4I / Survivability / NG CCFLIR / TAS)	1	2017	4	2021
Recapitalization Engineering: CCH Next	2	2018	4	2021
<b>Combatant Craft Mission Equipment</b>				
Shock Enhancements/Active Ride Control	2	2018	3	2019
Situational Awareness Sensors/Antennas	2	2018	4	2020
SATCOM on the Move Test & Integration	2	2017	2	2017
MK50 Weapon SOF Modifications/Tests	1	2017	3	2019
Survivability Enhancement/Craft Paint Study	3	2017	4	2018
Threat Analysis	3	2021	4	2022
Obsolescence Analysis and Test (Tech Refresh)	1	2017	3	2021
Airborne Mission Network - Maritime	1	2019	4	2022
Survivability Studies	2	2017	2	2021
Link 16	1	2018	1	2019
Maritime Precision Engagement	2	2018	2	2020
<b>Combatant Craft Assault</b>				
Preplanned Product Improvement (Survivability, Weapons, C4ISR, NG CCFLIR, TAS)	1	2017	4	2023
<b>Threat Awareness System</b>				
Milestone B	3	2018	3	2018
Milestone C	2	2020	2	2020
Development	1	2018	4	2019

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2019 United States Special Operations Command	<b>Date:</b> February 2018
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<b>Appropriation/Budget Activity</b> 0400 / 7	<b>R-1 Program Element (Number/Name)</b> PE 1160483BB / <i>Maritime Systems</i>	<b>Project (Number/Name)</b> S1684 / <i>Surface Craft</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Test and Evaluation	4	2019	1	2021
<b><i>Maritime Precision Engagement</i></b>				
Milestone B	4	2019	4	2019
Milestone C	4	2021	4	2021
Engineering and Manufacturing Development	1	2019	4	2021
Production Representative Article	4	2019	4	2020
Test and Evaluation	4	2020	4	2022